CONTENTS

Twenty Years of Environmental Health Research

K. G. Thigpen. Introduction 3

J. C. Barrett. Mechanisms of multistep carcinogenesis and carcinogen risk assessment 9

A. R. Brody. Asbestos-induced lung disease 21

T. W. Clarkson. Mercury: major issues in environmental health 31

D. L. Davis, A. Blair, and D. G. Hoel. Agricultural exposures and cancer trends in developed countries 39

L. J. Folinsbee. Human health effects of air pollution 45

B. A. Fowler. Mechanisms of kidney cell injury from metals 57

L. S. Gold, M. B. Manley, T. H. Slone, G. B. Garfinkel, L. Rohrbach, and B. Ames. The fifth plot of the Carcinogenic Potency Database: results of animal bioassays published in the general literature through 1988 and by the National Toxicology Program through 1989 65

J. A. Goldstein and M. B. Faletto. Advances in mechanisms of activation and deactivation of environmental chemicals 169

R. A. Goyer. Lead toxicity: current concerns 177

J. P. Vanden Heuvel and G. Lucier. Environmental toxicology of polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans 189

J. Huff. Chemicals and cancer in humans: first evidence in experimental animals 201

J. Lewtas. Complex mixtures of air pollutants: characterizing the cancer risk of polycyclic organic matter 211

M. I. Luster and G. J. Rosenthal. Chemical agents and the immune response 219

R. L. Melnick, C. C. Shackelford, and J. Huff. Carcinogenicity of 1,3-butadiene 227

W. T. Piver. Contamination and restoration of groundwater aquifers 237

J. B. Pritchard. Aquatic toxicology: past, present, and prospects 249

S. Safe. Toxicology, structure–function relationship, and human and environmental health impacts of polychlorinated biphenyls: progress and problems 259

B. A. Schwetz and M. W. Harris. Developmental toxicology: status of the field and contribution of the National Toxicology Program 269

M. D. Shelby, J. B. Bishop, J. M. Mason, and K. R. Tindall. Fertility, reproduction, and genetic disease: studies on the mutagenic effects of environmental agents on mammalian germ cells 283

R. Snyder, G. Witz, and B. D. Goldstein. The toxicology of benzene 293

R. W. Tennant and E. Zeiger. Genetic toxicology: current status of methods of carcinogen identification 307

G. E. R. Hook and G. W. Lucier. *Environmental Health Perspectives:* a new beginning 317

Published Volumes of EHP 321

Instructions to Authors 323